

JUN. 25. 2009 3:46PM

NO. 0304 P. 10/20

Applicant : Beaurain et al.
Serial No. : 10/533,846
Filed : November 11, 2005
Page : 2 of 12

Attorney's Docket No.: 21249-014US1 / LDR/10/US

RECEIVED
CENTRAL FAX CENTER

JUN 25 2009

AMENDMENTS TO THE CLAIMS

Claims 1-20 were previously canceled. Claims 21-64 were previously pending in the application. To overcome the Examiner's objections to the allowed claims in this application, in this paper claims 21, 25, 29, 30, 32, 41, and 48 are amended, claims 22-24, 31, 33-35, 46, 47, 50-53, and 56-64 are cancelled, and claims 65-73 are added.

Applicant : Beaurain et al.
Serial No. : 10/533,846
Filed : November 11, 2005
Page : 3 of 12

Attorney's Docket No.: 21249-014US1 / LDR/10/US

RECEIVED
CENTRAL FAX CENTER

JUN 25 2009

COMPLETE LISTING OF CLAIMS

The following presents a listing of claims as currently pending in the application following the amendments set forth in **Amendments to the Claims** section of this paper, which listing replaces all prior versions and listings of claims:

1-20. (Canceled)

21. (Currently Amended) Intervertebral disc prosthesis comprising an upper plate, a lower plate, and a core, a curved upper surface of the core being in contact with at least part of a curved lower surface of the upper plate and a lower surface of the core being in contact with at least part of an upper surface of the lower plate with an angle between respective planes of the upper and lower plates being obtained by the core having an acute angle in a front-rear direction, and the upper plate being moveable at least with respect to the core and the core being movable in translation and rotation with respect to the lower plate, and in which there are cooperation means not located in the middle of the core between the lower plate and the core, so as to limit translation movements of the core with respect to the lower plate around an axis substantially parallel to the lower plate when the intervertebral disc prosthesis is assembled, and to limit or eliminate rotation movements of the core with respect to the lower plate around an axis substantially perpendicular to the lower plate when the intervertebral disc prosthesis is assembled[[.]] in which the lower plate comprises male means cooperating with female means of the core and the male means of the lower plate are two pins curved towards the inside of the prosthesis and located opposite each other on two edges of the prosthesis, and in that the female means of the core are two recesses.

22-24. (Canceled)

25. (Currently Amended) Intervertebral disc prosthesis according to claim [[24]] 21, in which the lower plate and the upper plate are assembled with a second core rather than the core and the second core has a thickness that differs from the thickness of the core.

Applicant : Beaurain et al.
Serial No. : 10/533,846
Filed : November 11, 2005
Page : 4 of 12

Attorney's Docket No.: 21249-014US1 / LDR/10/US

26. (Previously Presented) Intervertebral disc prosthesis according to claim 25, in which the angle between the upper and lower plates is between 0° and 15°.
27. (Previously Presented) Intervertebral disc prosthesis according to claim 21, in which the core is movable with respect to the upper and/or lower plates, to compensate for relative positioning defects between the upper plate, the lower plate and the core of the prosthesis.
28. (Previously Presented) Intervertebral disc prosthesis according to claim 21, in which at least part of the lower surface of the upper plate is concave and complementary to the upper surface of the core.
29. (Currently Amended) Intervertebral disc prosthesis according to any one of ~~claims 22 or 23~~ claim 21, in which the dimensions of each male means are less than those of each female means so as to enable a slight clearance between the core and the lower plate.
30. (Currently Amended) Intervertebral disc prosthesis according to any one of ~~claims 22 or 23~~ claim 21, in which the dimensions of each male means are substantially the same as those of each female means so as to inhibit clearance between the core and the lower plate.
31. (Canceled)
32. (Currently Amended) Intervertebral disc prosthesis according to claim ~~[[31]]~~ 21, in which at least one of the pins is replaced by a lug equipped with a drilling whereon a tag using a dowel entering the drilling.
- 33-35. (Canceled)
36. (Previously Presented) Intervertebral disc prosthesis according to claim 21, in which the core is made of polyethylene.

Applicant : Beaurain et al.
Serial No. : 10/533,846
Filed : November 11, 2005
Page : 5 of 12

Attorney's Docket No.: 21249-014US1 / LDR/10/US

37. (Previously Presented) Intervertebral disc prosthesis according to claim 21, in which the lower plate comprises one or more openings along its front side, provided to receive prosthesis anchoring means in a vertebra.

38. (Previously Presented) Intervertebral disc prosthesis according to claim 37, in which the opening of the lower plate is rectangular, and in which the anchoring means comprise a body, forming an acute angle with the lower plate, and a head.

39. (Previously Presented) Intervertebral disc prosthesis according to claim 37, in which the openings of the lower plate are circular, and in which the anchoring means are nail-shaped.

40. (Previously Presented) Intervertebral disc prosthesis according to claim 21, in which the upper plate is convex on at least part of its upper surface to fit into the shape of the vertebrae.

41. (Currently Amended) An intervertebral disc prosthesis for substitution of a fibrocartilaginous disc between adjacent vertebra in a spinal column comprising:

an upper plate having a curved lower surface;

a lower plate having an upper surface;

a core having an upper surface and a lower surface,

the upper surface of the core being curved and configured for contact with at least part of the curved lower surface of the upper plate and

the lower surface of the core being configured for contact with at least part of the upper surface of the lower plate, said contact of the lower surface of the core with at least part of the upper surface of the lower plate being configured for translation movements of the core with respect to the lower plate along an axis substantially parallel to the upper surface of the lower plate and for rotation movements of the core with respect to the lower

Applicant : Beaurain et al.
Serial No. : 10/533,846
Filed : November 11, 2005
Page : 6 of 12

Attorney's Docket No.: 21249-014US1 / LDR/10/US

plate around an axis substantially perpendicular to the upper surface of the lower plate when the intervertebral disc prosthesis is assembled; and a stop comprising a male portion disposed on the lower plate and a female portion disposed on the core. the male portion and the female portion each located along an edge of the prosthesis, and the male portion and the female portion each configured to limit translation movements of the core with respect to lower plate and rotation movements of the core with respect to the lower plate, in which the male portion is a tag fixed by a dowel.

42. (Previously Presented) An intervertebral disc prosthesis according to claim 41 in which the upper surface of the core is convex and the lower surface of the upper plate is concave, and the lower surface of the core and the upper surface of the lower plate are each substantially planar.

43. (Previously Presented) An intervertebral disc prosthesis according to claim 42 in which the upper plate has an upper surface that is convex and the lower plate has a lower surface that is substantially planar.

44. (Previously Presented) An intervertebral disc prosthesis according to claim 43 further comprising anchors configured to engage an adjacent vertebra.

45. (Previously Presented) An intervertebral disc prosthesis according to claim 44 in which the anchors are disposed on opposite sides of the prosthesis.

46. (Canceled)

47. (Canceled)

48. (Currently Amended) An intervertebral disc prosthesis according to claim [[47]] 41 in which the female portion is a recess.

Applicant : Beaurain et al.
Serial No. : 10/533,846
Filed : November 11, 2005
Page : 7 of 12

Attorney's Docket No.: 21249-014US1 / LDR/10/US

49. (Previously Presented) An intervertebral disc prosthesis according to claim 48 in which the recess is a groove.

50-53. (Canceled)

54. (Previously Presented) An intervertebral disc prosthesis according to claim 41 in which the core forms an acute angle in a front-rear direction.

55. (Previously Presented) An intervertebral disc prosthesis according to claim 41 in which the core can have different thicknesses.

56-64. (Canceled)

65. (New) An intervertebral disc prosthesis for substitution of a fibrocartilaginous disc between adjacent vertebra in a spinal column comprising:
an upper plate having a curved lower surface;
a lower plate having an upper surface;
a core having an upper surface and a lower surface,
the upper surface of the core being curved and configured for contact with at least part of the curved lower surface of the upper plate and
the lower surface of the core being configured for contact with at least part of the upper surface of the lower plate, said contact of the lower surface of the core with at least part of the upper surface of the lower plate being configured for translation movements of the core with respect to the lower plate along an axis substantially parallel to the upper surface of the lower plate and for rotation movements of the core with respect to the lower plate around an axis substantially perpendicular to the upper surface of the lower plate when the intervertebral disc prosthesis is assembled; and
a stop comprising a male portion disposed on the lower plate and a female portion disposed on the core, the male portion and the female portion each located along an edge of the prosthesis, and the male portion and the female portion each

Applicant : Beaurain et al.
Serial No. : 10/533,846
Filed : November 11, 2005
Page : 8 of 12

Attorney's Docket No.: 21249-014US1 / LDR/10/US

configured to limit translation movements of the core with respect to lower plate and rotation movements of the core with respect to the lower plate, in which the male portion is an inwardly curved pin.

66. (New) An intervertebral disc prosthesis according to claim 65 in which the upper surface of the core is convex and the lower surface of the upper plate is concave, and the lower surface of the core and the upper surface of the lower plate are each substantially planar.

67. (New) An intervertebral disc prosthesis according to claim 66 in which the upper plate has an upper surface that is convex and the lower plate has a lower surface that is substantially planar.

68. (New) An intervertebral disc prosthesis according to claim 67 further comprising anchors configured to engage an adjacent vertebra

69. (New) An intervertebral disc prosthesis according to claim 68 in which the anchors are disposed on opposite sides of the prosthesis.

70. (New) An intervertebral disc prosthesis according to claim 65 in which the female portion is a recess.

71. (New) An intervertebral disc prosthesis according to claim 70 in which the recess is a groove.

72. (New) An intervertebral disc prosthesis according to claim 65 in which the core forms an acute angle in a front-rear direction.

73. (New) An intervertebral disc prosthesis according to claim 65 in which the core can have different thicknesses.